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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
EOFF, ANCA				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
03/19/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/593,812

Applicant(s)

NISHIKAWA ET AL.

Examiner

ANCA EOOF

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-893)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The foreign priority document JP 2004-087520 was received and acknowledged. However, in order to benefit of the earlier filing date, a certified English translation is required.
2. Claims 12-22 are pending in the application. Claims 1-11 are canceled.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 12-14, 16-17 and 19-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 6-11 of copending Application No.11/677339 (US Pg-Pub 2007/0196765). Although the conflicting claims are not identical, they are not patentably distinct from each other

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because both application claim a positive radiation-sensitive composition comprising a polymer (A), an acid generator (B) and a solvent (C), said polymer (A) comprising units with an acid-dissociable group, units derived from a (meth)acrylamide and/or a hydroxyphenyl (meth)acrylate and a method of producing a plated article using the positive radiation-sensitive composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 12-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 6-11 of copending Application No. 11/497300 (US Pg-Pub 2007/0031758). Although the conflicting claims are not identical, they are not patentably distinct from each other because both application claim a positive radiation-sensitive composition comprising a polymer (A), an acid generator (B) and a solvent (C), said polymer (A) comprising units with an acid-dissociable group, units derived from a (meth)acrylamide and/or a hydroxyphenyl (meth)acrylate and a method of producing a plated article using the positive radiation-sensitive composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

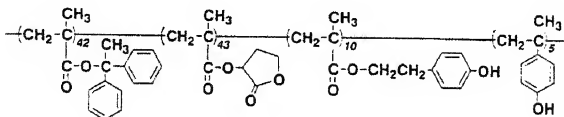
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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 12-14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiroyuki (JP 2004-029437).

With regard to claim 12, Hiroyuki disclose a positive-type resist comprising a polymer :



(par.0063), which is equivalent to the polymer of the instant application.

The first unit is an acid-dissociable group, as disclosed in par.0009-0013 and it is equivalent to the unit of formula (3) of the instant application, wherein R₄ is a methyl group, R₅ and R₆ are phenyl groups and R₇ is a methyl group.

The third unit is equivalent to the unit of formula (2) of the instant application, wherein R₁ is a methyl group, n=2 and m=0.

The fourth unit is equivalent to the monomer (II), being an aromatic vinyl compound.

The positive-type resist composition may further comprise an acid generator (par.0039) and a solvent (par.0049).

With regard to claims 13 and 14, the fact that the positive radiation-sensitive composition is a composition for producing a plated shape article, such as a bump, is an

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intended use of the composition and does not add any patentable weight to the composition of claim 12.

With regard to claim 17, Hiroyuki et al. further disclose that the composition comprises acid diffusion inhibitors, such as amine compounds (par.0048).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12-15, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoi et al. (US Patent 6,479,209).

With regard to claim 12, Aoi et al. disclose a positive photosensitive composition comprising (A) a compound generating an acid on irradiation of an active light ray or radiation and a resin (B) (abstract).

The photosensitive composition may further comprise a solvent (column 56, lines 4-18).

The resin (B) contains:

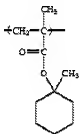
- an unit (ii) comprising at least one group which decomposes by the action of an acid represented by the formula (I):

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(I) (formula (III) in column 5, lines 40-55), wherein R_1 to R_3 may be the same or different and each represents an alkyl, cycloalkyl, alkenyl group and two of R_1 to R_3 may be combined to form a ring structure comprising from 3 to 8 carbon atoms (column 5, lines 20-31), such as cyclopropyl, cyclopentyl, cyclohexyl, cycloheptyl (column 10, lines 11-15). R_7 may be a hydrogen atom or an alkyl group (column 6, lines 63-65). X_0 may be a single bond (column 7, lines 4-5).

A specific example of such unit (ii) is given in the formula (II):



(II) (formula (a7) in column 11, lines 45-55).

The unit (ii) formula (I) of Aoi et al. is equivalent to the unit (b) of the instant application, having a structure equivalent to the unit of formula (3), wherein R_1 - R_3 are equivalent to R_5 - R_7 and are alkyl groups which bond to form an alicyclic hydrocarbon, such as cyclopropyl, cyclohexyl, cycloheptyl.

- an unit having a carboxyl group, which controls the solubility of the photosensitive composition at the development and contributes for optimizing the sensitivity, pattern profile and resolution (column 7 lines 23-40 and column 32, lines 40-44). Specific examples of units with a carboxyl group are given in formulas (III)-(IV):



(III)(formula (c1) in column 32, lines 50-55) and



(IV) (formula (c2) in column 32, lines 55-60).

The units of formulas (III) and (IV) are equivalent to the monomer (II) of the instant application, being carboxyl group-containing compounds.

Aoi et al further disclose that the resin (B) may comprises another polymerizable monomer, in order to improve the capabilities of the resin (column 35, lines 4-6) and monomers capable of increasing the alkali solubility are preferred (column 36, lines 46-47). Specific examples of copolymerizable monomers capable of increasing the alkali solubility are monomers with phenolic hydroxyl group, such as N-(hydroxyphenyl) (meth)acrylamide and hydroxyphenyl (meth)acrylate (column 36, lines 44-54).

The N-(hydroxyphenyl) (meth)acrylamide unit meets the limitation of the instant application for unit (a), being equivalent to the unit of formula (1), wherein R_1 is a hydrogen atom or a methyl group, $n=0$, $m=0$.

The hydroxyphenyl(meth)acrylate unit meets the limitation of the instant application for unit (a), being equivalent to the unit of formula (2), wherein R_1 is a hydrogen atom or a methyl group, $n=0$, $m=0$.

While Aoi et al. do not specifically disclose a copolymer comprising the units of the instant application, it would have been obvious to one of ordinary skill in the art at the time of the invention to obtain such a copolymer, based on Aoi's teachings that the resin (B) may contain:

- an unit (ii) comprising at least one group which decomposes by the action of an acid, such as the unit represented by the formula (I);
- an unit comprising a carboxyl group, such as the units represented by the formulas (III)-(IV), which contributes for optimizing the sensitivity, pattern profile and resolution, and
- an unit such as N-(hydroxyphenyl) (meth)acrylamide and hydroxyphenyl (meth)acrylate, which is capable of increasing the alkali solubility, as shown above.

With regard to claims 13-14, the fact that the positive radiation-sensitive composition is a composition for producing a plated shape article, such as a bump, is an intended use of the composition and does not add any patentable weight to the composition of claim 12.

With regard to claim 15, Aoi et al. disclose that the resin (B) is added in the positive resist composition in an amount of from 50 to 99.7, preferably from 70 to 99 wt%, based on the total solids content (column 37, lines 26-28).

The amount of the compound (A) which decomposes on irradiation of an active light ray or radiation is usually from 0.001 to 40 wt%, preferably from 0.01 to 20 wt%, more preferably from 0.1 to 5 wt% based on the entire weight of the photosensitive composition (excluding the coating solvent) (column 53, lines 11-15).

Aoi et al. disclose a positive resist composition comprising 80 parts by weight of a solvent based on 100 parts by weight of the composition and the acid generator is 3 parts by weight based on 100 parts by weight of the resin (Example 1, column 62, lines 25-30).

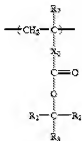
With regard to claim 17, Aoi et al. further disclose that the positive photosensitive composition may comprise an organic basic compound, equivalent to the acid diffusion controller of the instant application (column 53, line 27 and column 54, line 15-column 55, line 38).

With regard to claim 22, Aoi et al. disclose a positive photosensitive composition comprising (A) a compound generating an acid on irradiation of an active light ray or radiation and a resin (B) (abstract).

The photosensitive composition may further comprise a solvent (column 56, lines 4-18).

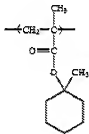
The resin (B) contains a unit (ii) comprising at least one group which decomposes by the action of an acid represented by the formula (I):

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(I) (formula (III) in column 5, lines 40-55), wherein R_1 to R_3 may be the same or different and each represents an alkyl, cycloalkyl, alkenyl group and two of R_1 to R_3 may be combined to form a ring structure comprising from 3 to 8 carbon atoms (column 5, lines 20-31), such as cyclopropyl, cyclopentyl, cyclohexyl, cycloheptyl (column 10, lines 11-15). R_7 may be a hydrogen atom or an alkyl group (column 6, lines 63-65). X_0 may be a single bond (column 7, lines 4-5).

A specific example of such unit (ii) is given in the formula (II):



(II) (formula (a7) in column 11, lines 45-55).

The unit (ii) formula (I) of Aoi et al. is equivalent to the unit (b) of the instant application, having a structure equivalent to the unit of formula (3), wherein R_1 - R_3 are equivalent to R_5 - R_7 and are alkyl groups which bond to form an alicyclic hydrocarbon, such as cyclopentyl, cyclohexyl, cycloheptyl.

Aoai et al further disclose that the resin (B) may comprises another polymerizable monomer, in order to improve the capabilities of the resin (column 35, lines 4-6) and monomers capable of increasing the alkali solubility are preferred as such co-polymerizable monomers (column 36, lines 46-47). Specific examples of copolymerizable monomers capable of increasing the alkali solubility are monomers with phenolic hydroxyl group, such as N-(hydroxyphenyl) (meth)acrylamide (column 36, lines 44-54).

The N-(hydroxyphenyl) (meth)acrylamide unit meets the limitation of the instant application for unit (a), being equivalent to the unit of formula (1), wherein R_1 is a hydrogen atom or a methyl group, $n=0$, $m=0$.

While Aoai et al. do not specifically disclose a copolymer comprising the units of the instant application, it would have been obvious to one of ordinary skill in the art at the time of the invention to obtain such a copolymer, based on Aoai's teachings that the resin (B) may contain:

- an unit (ii) comprising at least one group which decomposes by the action of an acid represented by the formula (I), and
- a unit such as N-(hydroxyphenyl) (meth)acrylamide and hydroxyphenyl (meth)acrylate, which are capable of increasing the alkali solubility, as shown above.

Aoai et al. disclose that the content of structural units of formula (I) having acid-decomposable groups in the resin (B) is adjusted by the capabilities, such as alkali developing property or substrate adhesive property (column 15, lines 27-33).

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoai et al. (US Patent 6,479,209) as applied to claim 12 above and in further view of Ohta et al. (US Pg-Pub 2004/0038148).

With regard to claim 16, Aoai et al. disclose the positive-type resist composition of claim 12 (see paragraph 9 of the Office Action) but fails to disclose that the positive type resist further comprises an alkali-soluble resin.

Ohta et al. disclose a positive-type radiation sensitive resin composition comprising a polymer, said polymer containing structural units with acid-dissociative groups (par.0026).

Ohta et al. further disclose that the positive-type radiation sensitive may further comprise an alkali-soluble resin, other than the polymer mentioned above (par.0126).By addition of such an alkali-soluble resin, the rate at which the resin film formed from the positive-type radiation sensitive resin composition is dissolved in an alkali developer can be more easily controlled, and as result, developing properties can be further enhanced (par.0127).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to add an alkali-soluble resin as disclosed by Ohta et al. in the positive-type resist composition of Aoai et al., in order to enhance the developing properties and have a better control of the dissolution in alkali developers (Ohta et al., par.0127).

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11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoai et al. (US Patent 6,479,209) in view of Jeon et al. (US Patent 6,210, 859).

With regard to claim 18, Aoai et al. disclose a positive-type resist composition of claim 12 (see paragraph 9 of the Office Action). In this positive-type resist composition, the sulfonium salts used as photoacid generators are represented by the formula (V):



(V) ((PAG4) in column 42, lines 1-7), wherein R_{203} - R_{205} may be aryl groups substituted with alkyl groups having 1 to 8 carbon atoms (column 42, lines 16-27).

However, Aoai et al. fail to specifically disclose the sulfonium salt required by claim 18 of the instant application.

Jeon et al. disclose a chemical amplified photoresist composition comprising an acid with dissociable groups and an acid generator (abstract). The acid generator in the photoresist composition can be diphenyl (4-t-butylphenyl)sulfonium triflate (column 5, lines 5-9).

Due to the fact that diphenyl (4-t-butylphenyl)sulfonium triflate is successfully used in the chemical amplified positive photoresist composition of Jeon et al., it would have been obvious for one of ordinary skill in the art at the time of the invention to use the diphenyl (4-t-butylphenyl)sulfonium triflate as acid generator in the positive-type resist composition of Aoai et al.

12. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoai et al. (US Patent 6,479,209) as applied to claim 12 and in further view of Ohta et al. (US Pg-Pub 2004/0038148).

With regard to claims 19-20, Aoai et al. disclose a positive-type resist composition of claim 12 (see paragraph 9 of the Office Action) but fail to disclose that the positive-type resist is applied on a support film to form a transfer film.

Ohta et al. disclose a positive-type radiation sensitive resin composition comprising a polymer, said polymer containing structural units with acid-dissociative groups (par.0026). The positive-type radiation sensitive composition can be applied on a support film to form a resin film (par.0151) and the resin of the resin film can be varied depending upon the use application of the product formed by plating. In case of a bump, the thickness of the resin film is in the range of 20 to 100 μm (par.0160).

Ohta et al. further disclose that the positive-type radiation sensitive material comprises a polymer (A) and an acid generator (B) (par.0018), wherein said polymer (A) is not limited as long as the polymer has an acid-dissociative functional group which is dissociated by an acid to generate an acid functional group (par.0026).

Since the positive-type resist composition of Aoai et al. meets the condition for the polymer (A) of Ohta et al., having acid-dissociative functional groups, it would have been obvious for one of ordinary skill in the art to use the radiation-sensitive mixture of Aoai et al. to form the resin film of Ohta et al.

With regard to claim 21, Aoai et al. disclose a positive-type resist composition of claim 12 (see paragraph 4 of the Office Action) but fail to disclose a process for producing a plated shaped article.

Ohta et al. disclose a process comprising the following steps:

- applying the positive-type radiation sensitive composition onto a substrate having a conductive layer (such as aluminium, copper, silver, gold, palladium and alloys of two or more kinds of these metals, as disclosed in par.0156) on its surface and drying to form a resin film;

- exposing, heating and developing the resin film to obtain a pattern;
- electroplating using the pattern formed on the substrate as a mold;
- removing the resin film portion from the substrate;
- removing the conductive layer present on the area of the substrate other than the area where the product formed by plating has been formed (par.00153).

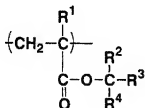
Ohta et al. further disclose that the positive-type radiation sensitive material comprises a polymer (A) and an acid generator (B) (par.0018), wherein said polymer (A) is not limited as long as the polymer has an acid-dissociative functional group which is dissociated by an acid to generate an acid functional group (par.0026).

Due to the fact that the positive-type resist composition of Aoai et al. comprises a polymer with acid-dissociable groups and meets the condition of Ohta et al., it would have been obvious for one of ordinary skill in the art to use the radiation-sensitive mixture of Aoai et al. in the process of Ohta et al. with a reasonable expectation of success.

Response to Arguments

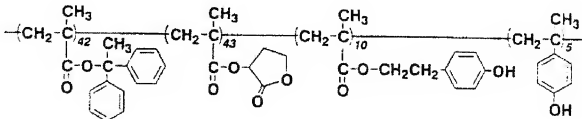
13. Applicant's arguments filed on December 19, 2007 have been fully considered but they are not persuasive:

On page 9 on the Remarks, the applicant is arguing that the polymer of Hiroyuki (JP 2004-29437) comprises a lactone unit (2) which is not comprised by the polymer of the instant application. However, the examiner would like to show that the polymer of Hiroyuki et al. meets the limitation of the instant application, comprising the unit with acid-dissociable groups:



(formula (1) in par.0010), wherein R²-R⁴ may be C₁-C₈ alkyl group, C₆-C₁₅ aryl groups, C₇-C₁₆ aralkyl groups and at least one of R₂-R₄ is an aryl group or an aralkyl radical (par.0010).

Hiroyuki et al. specifically disclose the polymer:



(par.0063), which meets the limitations of claims 1-4 of the instant application.

The third unit is equivalent to the unit (a) of claim 1, wherein R_1 is a methyl group, $n=2$ and $m=0$ and the first unit is equivalent to the unit with an acid-dissociable functional group (b) of claim 2, wherein R_5 , R_6 are phenyl group and R_7 is a methyl group.

Claim 1 comprises the limitation "polymer containing structural units (a) and an acid-dissociable functional group (b)", which indicates that the polymer may comprise additional units, therefore the polymer of Hiroyuki et al. meets the limitation of claim 1.

On page 10 of the Remarks, the applicant is arguing that the polymer of Przybilla et al. comprises the unit of formula (I), which is not comprised by the polymer of the instant application. The examiner would like to show that claim 1 comprises the limitation "polymer containing structural units (a) and an acid-dissociable functional group (b)" indicates that the polymer may comprise additional units, therefore the polymer of Przybilla et al. meets the limitation of claim 1.

On page 10 of the Remarks, the applicant is arguing that Ohta et al. do not disclose the polymer of the instant application. However, the examiner did not rely on Ohta et al. for the rejection of the composition claims but only to show a teaching regarding the use of an alkali-soluble resin in a positive-working resist composition and the use of a positive-working resist composition for a transfer film and a process of producing a plated shape article.

On page 11 of the Remarks, the applicant is arguing that Jeon et al. do not disclose the polymer of the instant application. However, the examiner did not rely on Jeon et al. for the rejection of the composition claims but only to show a teaching

regarding the use of the sulfonium salts required by the instant application as acid generators in a positive-working resist composition.

On page 11 of the Remarks, the applicant indicates that a Terminal Disclaimer was submitted. However, a Terminal Disclaimer is not included in the incoming submission of December 19, 2007.

Conclusion

14. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-

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9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795